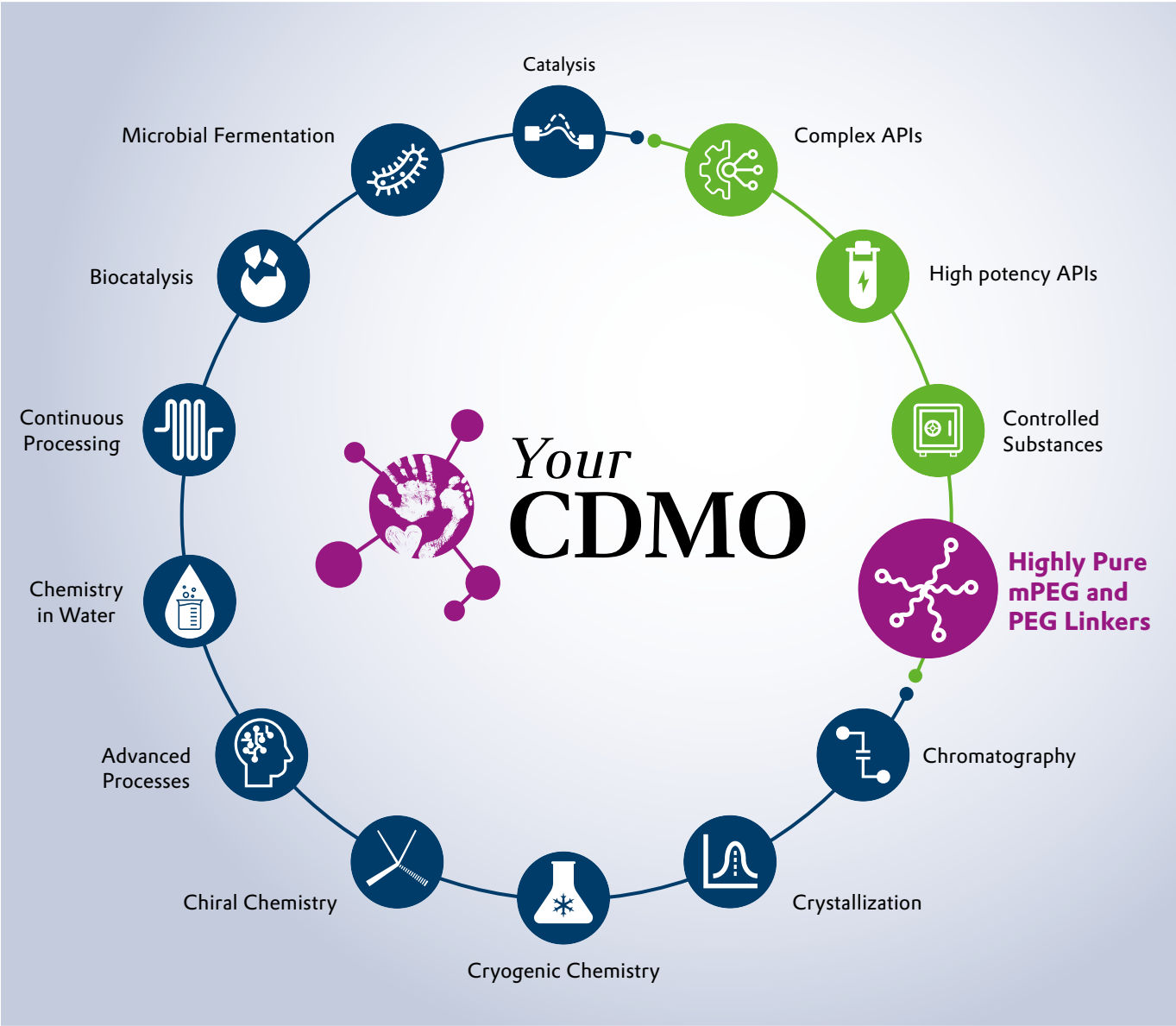
Highly pure PEGs and mPEGs

Custom PEG specialties to meet the highest standards



EVONIK
Leading Beyond Chemistry

Evonik offers a unique combination of skills essential to the development and manufacture of highly pure PEGs and mPEGs for pharmaceutical applications.

- Decades of experience handling ethylene oxide and producing polyethylene glycol (PEG) for many industries.
- An integrated global network of FDA-inspected cGMP sites in Germany and the USA.
- Decades of experience in API production.
- Professional and transparent project management for exclusive projects from one of the leading CMOs.

PEG AND mPEG SYNTHESIS

Evonik operates a specialized plant to produce PEGs for pharmaceutical applications in Hanau, Germany.

- In-house development
- High flexibility for new PEG specialties
- Up to 3 digit kg scale & further scale-up options

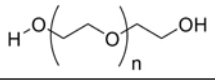
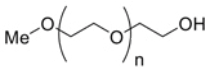
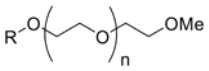
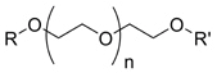
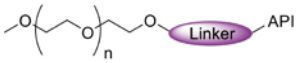
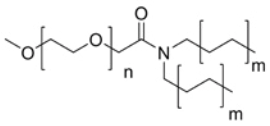
OFFERING THE WHOLE VALUE CHAIN

- Activation and linker synthesis under cGMP at Evonik sites in Germany and the USA.
- Conjugation development in our conjugation lab in Hanau, Germany.
- Further PEGylation development and manufacturing capabilities available at Birmingham, USA (including fill & finish).

COMPLETE ANALYTICAL SETUP

Our facilities offer a complete analytical setup for PEGs and mPEGs. This includes the following capabilities:

- Average molecular weight per SEC/GPC and/or MALDI-TOF
- Polydispersity (PDI) per SEC/GPC
- Assay and purity determined per NMR and/or HPLC (CAD, ELSD)
- Diol content (for substituted PEGs) per HPLC (CAD, ELSD)
- GC for residual solvents
- X-Ray Powder Diffraction (XRPD)
- Thermal: DSC, TGA, TG-IR, bomb calorimetry

PEG-Diol	
mPEG-OH	
Other Substituents	
PEG Functionalization	
mPEG API	
Pegylated Lipids e.g. ALC-0159	

R,R'

Inert terminal groups:
-Me, -Bn, etc

Functional groups:
-OH, -NH_2, -COOH

Activated groups for further processing:
-NSH, -OMs, -OTs, -Phtalates, -Bromide

Chain length:

Available: 2KDa-50KDa

Possible: 750Da-80KDa

Specifications*	
Mol. Weight (Mp/Mn)	+/-5% (SEC)
PDI	≤ 1.05 (SEC)
Purity	≥ 98% (SEC)
HMW	≤ 2.0% (SEC)
PEG Diol	≤ 2.0% (ELSD)
Appearance	White to off-white solid
Residual solvents	As needed
Water	≤ 1.0 (KF)

* Custom specifications or tighter specifications on demand

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